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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,697	03/15/2007	Lei Yang	11005.0147-00000	3714

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EXAMINER	
AMBAYE, MEWALE A	

ART UNIT	PAPER NUMBER
2472	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,697	YANG, LEI	
	Examiner	Art Unit	
	MEWALE AMBAYE	2472	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 09/22/2009 has been entered.

Response to Arguments

2. Applicant's argue that, "Whelan is silent regarding **prohibiting the fixed map from being modified** as long as the connection between the port and the terminal device is not cut off".

In response to applicant's argument, the examiner respectfully disagrees with the argument above. *Whelan discloses a system for securing a network, comprising a MAC address filter for prohibiting access to the access point based on information describing one or more MAC address (See Page 2; Para. 0017). Whelan also discloses a system further comprising a switch or a router configured to transfer information between at least two network segments and the network monitor is further configured to configure the switch or router to prevent transfer information through the switch originating from or to the unauthorized access point (See Page 2; Para. 0017).*

In addition, Whelan discloses that the network monitor preferably determines whether reported devices are connected to the wired network by monitoring the network for packets

including the device identification information reported by the receivers (Se Page 2; Para. 0026).

Applicants also argue that Kim fails to teach or suggest a combination of "**establishing and storing a fixed map**.....between the port and the hardware address".

The examiner respectfully disagrees with the argument above. Kim discloses establishing and storing information. *(See FIG. 1 & Col 3 line 48 through Col 4 line 10, the packet memory includes an address table 152, which stores information related to MAC addresses and a port table, which stores information about the current status, port attributes enable/disable. As shown in FIG. 1, the packet memory comprises an address table, which stores information about the device MAC address and port table which stores port information and all are accessed by the data exchange, 130.)*

Thus it is clear that Kim does not teach away since it teaches exactly as recited in the applicant's claimed invention.

Moreover, the combined system of Whelan and Kim discloses the claimed invention as detailed below.

Again, Applicant's argue that Sherer fails to teach "deleting the fixed map .....between the port and the terminal device".

The examiner respectfully disagrees with the argument above. Sherer discloses that *if it's detected that the end station is turned off (disconnected), the Mac address can be deleted from the table and the port placed in an unauthenticated state. Sherer also discloses that in the unauthenticated state, it will be required that the authentication protocol be executed before any packet is accepted on that particular port (See Col 6 lines 59-63).*

Thus it is clear that Sherer does not teach away since it teaches exactly as recited in the applicant's claimed invention.

Moreover, the combined system of Whelan Kim and Sherer discloses the claimed invention as detailed below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims **1-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim US Patent No 7386876 B2, in view of Whelan et al (hereinafter referred as Whelan) US Publication No. 2004/0003285 A1, in further view of Sherer et al (hereinafter referred as Sherer) US Patent No. 6,115,376 B2.

4. **As per claim 1 & 10:** Kim discloses a method/device for preventing Ethernet from being attacked, comprising: establishing and storing a fixed map *(address table)* between a port and a hardware address of a terminal device, *(See FIG. 1 & Col 3 line 48 through Col 4 line 10, the packet memory includes an address table 152, which stores information related to MAC addresses and a port table, which stores information about the current status, port attributes enable/disable)*, after an Ethernet communication device detects a new connection between the port and the terminal device and receives data packet from the terminal device; forwarding data

packet according to the fixed map *(See Col 2 lines 64 through Col 3 line 5, once the data is received up on request of communication through an Ethernet switch, the data is read and determined whether access vector of the address are match with an address entry table before forwarding the packets. If the address matches, it forwards the packets according to the address table (fixed map)).*

Kim does not explicitly teach prohibiting the fixed map between the port and the hardware address from being modified as long as the connection between the port and the terminal device is not cut off;

However, Whelan discloses prohibiting the fixed map between the port and the hardware address from being modified as long as the connection between the port and the terminal device is not cut off *(See Page 2; Para. 0017; the network monitor is configured to configure the switch not to able to transfer information between two network segments).*

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Whelan within Kim method in order to prevent transfer of information through the switch originating from or addressed to the unauthorized access point *(See Page 2; Para. 0017).*

The combination of Kim and Whelan discloses all the limitations of independent claim 1 except deleting the fixed map after the Ethernet connection device detects a disconnection between the port and the terminal device.

However, Sherer discloses deleting the fixed map after the Ethernet connection device detects a disconnection between the port and the terminal device *(See Col 6 lines 59-63, if it's*

detected that the end station is turned off (disconnected), the Mac address can be deleted from the table).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Sherer within Kim and Whelan method in order to improve network security in a network that includes a star configured interconnection device such as repeaters, bridges, switch or router, that has a plurality of ports adapted for connection to respective MAC layer devices *(See Sherer Col 2 Lines 54-58).*

5. **As per claim 2:** the combination of Kim, Whelan and Sherer discloses a method further comprising: after receiving the data packet from the terminal device, judging whether the fixed map has been established *(See Sherer; Col 2; lines 62-64, upon receiving a packet, the process involves determining whether the packet carries a source address which authentication data maps to the particular port)*; wherein: if it is judged that the fixed map has been established, jumping to the step of forwarding the packet *(See Sherer; Col2; lines 62-66, if the packet carries a source address which authentication data maps to the particular port, then the packet if forwarded* ; if it is judged that the fixed map has not been established, jumping to the step of establishing and storing the fixed map between the port and the hardware address of the terminal device *(See Sherer; Col 2; line 60 through Col 3; line 16, if the packet does not carries a source address which authentication data maps to the particular port, then update the authentication data according to the authentication protocol).*

6. **As per claim 3:** the combination of Kim, Whelan and Sherer discloses a method wherein the forwarding of the data packet comprises whether a hardware address carried in the data packet is consistent with the hardware address corresponding to the port in said fixed map; if so,

forwarding the data packet according to a conventional forwarding processing; otherwise, discarding the data packet *(See Kim Col 2 line 64 through Col 3 line 5, if the access vector of the address are present in the an address entry table (fixed map), forward the packets. If not access is denied).*

7. **As per claim 5:** the combination of Kim, Whelan and Sherer discloses a method wherein said hardware address is a Media Access Control (MAC) address *(See Kim Col 2 lines 63-68, Mac address is the hardware address).*

8. **As per claim 6:** the combination of Kim, Whelan and Sherer discloses a method wherein detecting the new connection or the disconnection between the terminal device and the port is implemented by detecting physical signals in the port *(See Sherer Col 6 lines 57-63, the network device monitor the link beat signals generated by end station on the port).*

9. **As per claim 7:** the combination of Kim, Whelan and Sherer discloses a method wherein said Ethernet communication device is a two-layer switch, a three-layer switch, a firewall device or an Ethernet bridge *(See Kim Col 1 lines 57-64, the communication device is an Ethernet switch).*

10. **As per claim 8:** the combination of Kim, Whelan and Sherer discloses a method wherein said terminal device is a personal computer, a server or an IP telephone set *(See Kim Col 3 lines 36-42, the terminal devices cab be a personal compute, a switch or a router).*

11. **As per claim 9:** the combination of Kim, Whelan and Sherer discloses a method wherein said fixed map is stored in a hardware address table of the Ethernet communication device *(See Sherer FIG. 2 & Col 5 lines 4-10, the device includes memory).*

12. **As per claim 11:** the combination of Kim, Whelan and Sherer discloses a method comprising: means for judging whether a hardware address carried in the data packet is consistent with the hardware address corresponding to the port in said fixed map; if so, forwarding the data packet according to a conventional forwarding processing; otherwise, discarding the data packet *(See Kim; Col 2 lines 64 through Col 3 line 5, once the data is received up on request of communication through an Ethernet switch, the data is read and determined whether access vector of the address are match with an address entry table before forwarding the packets. If the address matches the packets gets forwarded, if not access id denied).*

13. Claim **4** is rejected under U.S.C. 103(a) as being unpatentable over the combination of Kim, Sherer and Whelan, in view of Yao et al (hereinafter referred as Yao) US Patent No. 7,263,559.

14. **As per claim 4:** the combination of Kim, Sherer and Whelan disclose all the limitation of claim 3 except further comprising: after discarding the data packet, recording result of the judging of whether the address carried in the data packet is consistent with the hardware address corresponding to the port in said fixed map, in a log and informing a network administrator.

However, Yao discloses a method further comprising after discarding the data packet, recording result of the judging of whether the address carried in the data packet is consistent with the hardware address corresponding to the port in said fixed map, in a log and informing a network administrator *(See Col 2; lines 43-57, once the packet is discarded, the DHCP sends the server to delete the allocated address).*

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Yao within the combination of Kim, Whelan and Sherer method in order to provide a method for preventing IP address cheating in dynamic address allocation *(See Col 2 lines 1-3).*

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mewale Ambaye whose telephone number is (571) 270-7634. The examiner can normally be reached on M - F, 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reach on (571) 272-7872. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from their Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)?
If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (In USA or Canada) or 571-272-1000.

/M. A. /

Examiner, Art Unit 2472

/William Trost/

Supervisory Patent Examiner, Art Unit 2472